Bureau of Underground Storage Tanks PO Box 433 Trenton, NJ 08625-0433 (609) 292-8761

Dear Tank Owners and Operators:

I am writing to you as a reminder that you have less than one and years remaining in which to make one-half sure that underground storage tank (UST) systems are in compliance with the regulations aimed at protecting public health and the environment from underground storage tank system spills, leaks and discharges. Early compliance could save you money. The longer you wait to protect your tanks, the more likely it is that they will have a release that could be costly in terms of cleanup costs and lost operating time. Waiting also means that you probably will encounter delays in getting tanks and other equipment delivered and installed and that you may have to pay higher prices than contractors would charge now.

In an effort to educate tank owners and operators and encourage timely compliance with State and Federal Underground Storage Tank laws and regulations, the Department held five seminars at three different locations in New Jersey last autumn open to all tank owners and operators. Additionally in 1996, the Department sent owners and operators of underground storage tank systems copies of "Straight Tank on Tanks" and "Don't Wait Until 1998." The documents were written for tank owners and operators and explain the release detection monitoring requirements currently in effect and the upgrade options that are required no later than December 22, 1998 (1998 deadline).

Attached is a "Self-Inspection Checklist" and "Checklist Summary." The checklist was designed to allow owners and operators to determine if their tank systems are in full compliance with Underground Storage Tank rules, and if not, to help determine what remains to be completed now and/or before the 1998 deadline. Compliance with these requirements is your responsibility. To be very clear, the Federal Office of Underground Storage Tanks within the United States Environmental Protection Agency (USEPA) has repeatedly emphasized that there are no plans to change the 1998 deadline and the date will not be extended.

To further aid you in determining what is required for your tank system(s), the Department has developed the attached "Checklist Summary." Please review and complete this checklist for each underground storage tank system at your facility. The summary is laid out to provide tank owners and operators with the ability to identify current deficiencies in their tank systems. You do not have to return this checklist to the Department. This is for your

use only. If you do not understand this information or cannot complete the checklist, please refer to the two documents referenced above. Please call if that information does not help you to complete this checklist. If you are unable to complete the checklist or summary, you may call the Department at (609) 292-8761 and set up an appointment with a Department representative to review your tank system.

Six months following the distribution of this checklist, the USEPA and the Department will increase the number of underground storage tank compliance inspections. Please maintain a copy of the completed checklist and summary. Review of this information during a tank compliance inspection may help speed up the inspection.

This checklist is intended as a tool to educate you on the underground storage tank requirements. At this time, the goal of the Underground Storage Tank Program is to help you to understand what your UST system(s) needs to be in full compliance and give you an opportunity to get your questions answered so you may ultimately contract with appropriate certified individuals to get the work completed to achieve full compliance by December 1998.

In addition, the Department is considering conducting additional seminars for owners and operators to help explain the tank rules. Please return the enclosed postcard if you are interested in attending a seminar. Dates and times have not been scheduled. The number of seminars offered will depend upon the response the Department receives.

Finally, if during the course of performing your tank system self-inspection you identify tank systems that are not registered with the Department or tank systems for which the registration information is incomplete or incorrect, please complete the enclosed registration questionnaire and submit it to the Department.

Please take the time to complete the checklist. As previously noted, the 1998 deadline will not be extended. Compliance with the underground storage tank regulations is your responsibility and in your best self-interest. Please call any member of my staff at (609) 292-8761 if you have any questions about this checklist.

Sincerely,

Richard J. Gimello, Assistant Commissioner Site Remediation Program

enclosures: Self-Inspection Checklist Registration Questionnaire

Survey Postcard





New Jersey Department of Environmental Protection (DEP)

Site Remediation Program September 1997

UNDERGROUND STORAGE TANK OWNER'S SELF-INSPECTION CHECKLIST

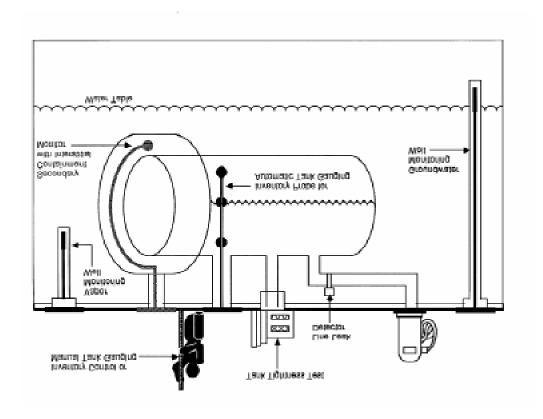


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DEFINITIONS



- 1. RELEASE DETECTION MONITORING
 - A method used to identify a failure of a tank or piping resulting in the migration of the stored substance into a secondary container or the environment. Release detection monitoring may be performed manually or electronically. Monitoring of the tank must be completed at least once each month. Piping must be monitored monthly unless it is periodically tested. (See Straight Talk on Tanks)
- 2. SPILL PREVENTION
 - A device used to catch any dripping product when the delivery hose is disconnected from the fill pipe of the tank. Typically, spill buckets come in 3 gallon, 5 gallon and 15 gallon sizes. If the fill pipe is placed within a product-tight sump, no additional spill prevention is needed. (See Don't Wait Until 1998)
- OVERFILL PREVENTION 3.
 - A device used either to notify the delivery attendant that the tank is almost filled to capacity or to stop the flow of product into the tank when the tank is almost filled to capacity. (See Don't Wait Until 1998)
- CORROSION PROTECTION
 - Corrosion protection is achieved by constructing the tank system one of four ways:
 - The tank and piping may be made from a non-corrodible material such as fiberglass.
 - The tank or piping may be made of steel but coated with or jacketed within a non-corrodible material (for example, fiberglass or plastic).
 - Cathodic protection (Impressed current or sacrificial anode) may be used with 3.
 - the tank and piping to slow or prevent corrosion of the steel. Steel tanks may be internally lined with epoxy. This extends the life of a tank but does not slow the rate of corrosion of the steel tank shell. (See Don't Wait Until 1998)



INSTRUCTIONS



Attached are a general facility information form, tank survey forms (to identify which checklists to use) and underground storage tank self-inspection checklists for release detection monitoring, corrosion protection, spill prevention and overfill prevention.

STEP 1

Fill out the Facility Survey Form (page 3)

The UST Registration Number is the 7-digit number found on your registration placard sent to you upon renewal of the facility registration.

STEP 2

Please answer questions 1 through 6 on the <u>Tank Survey Form</u> (page 5) to determine which checklists you need to complete. If no <u>method of release</u> detection monitoring is identified in either question 3 or 4, you are out of compliance with the current State and federal monitoring requirements (Except for heating oil systems).

If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have spill prevention, overfill prevention and corrosion protection, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

STEP 3

Complete each of the checklists identified in the <u>Tank Survey Form</u> (page 5). The same checklist might need to be completed twice for the same tank <u>system</u>. For example, a steel tank <u>and</u> piping system with impressed current cathodic protection will have the cathodic protection checklist filled out twice; once for piping and once for the tank.

Please note that when tanks are registered with the Department, the owner or operator assigns tank numbers to each tank system (for example, tank #E1, E2 etc.). Please include the tank number and size on the top of each checklist.

STEP 4

Complete the checklists for each tank system you own. A new form should be used for each underground storage tank system (Copy the blank forms if necessary) unless all underground storage tank systems have exactly the same equipment. Finally, complete the one-page Self-Inspection Checklist Summary and determine if the system is in compliance with the rules.

- Tank systems (except for heating oil) installed on or after December 22, 1988 are required to have corrosion protection, spill prevention, and overfill prevention.
- 2. Owners and operators of tank systems other than those used to contain heating oil for on-site consumption, had to begin release detection monitoring on or before December 22, 1993.
- 3. Owners and operators of tank systems, other than heating oil, had to begin release detection monitoring of piping on or before December 22, 1990.
- 4. Owners and operators of heating oil underground storage tank systems must begin release detection monitoring no later than December 22, 1998.
- 5. All underground storage tank systems installed after December 21, 1988 (except for systems containing heating oil for on-site consumption) which do not have spill prevention, overfill prevention and corrosion protection, are out of compliance with the current federal and state tank system construction standards. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.





FACILITY SURVEY FORM

- 1. Circle "Y" or "N" to the following questions:
- Y = N a. Is the facility registration current? (Check the expiration date, the expiration should be some time in the future)
- Y N b. Are <u>all</u> tanks which exist on-site listed on the current facility Registration Certificate? The only exceptions are tanks that are not regulated (See page 28 of Straight Talk on Tanks to determine if a tank is regulated) and those that were lawfully closed by receiving a Department-issued closure approval or abandoned-in- place (internally cleaned and filled with a solid such as sand) prior to September 4, 1990.

IF YOU ANSWERED "NO" TO EITHER a OR b, CONTACT THE DEPARTMENT'S UST REGISTRATION AND BILLING SECTION AT (609) 633-0719.

- 2. Circle "Y" or "N" to the following question:
- Y N At this time, all fillports are to be properly marked? Are the fillports marked accordance with the recommendations of the American Petroleum Institute (API Recommended Practice 1637)?

(this applies to fuel tanks at gas stations and all heating oil tanks)

+-----

Markings:

- 1. Solid red circle leaded high grade gasoline
- 2. Solid blue circle leaded middle grade gasoline
- 3. Solid white circle leaded low grade gasoline
- 4. Red circular background with white cross unleaded high grade gasoline
- 5. Blue circular background with white cross unleaded middle grade gasoline
- 6. White circular background with black cross unleaded low grade gasoline
- 7. Solid yellow hexagon diesel fuel
- 8. Solid green hexagon #2 heating oil
- 9. Solid brown hexagon kerosene
- 10. Purple hexagon background with yellow bar #1 heating oil
- 11. Purple square with white "U" waste oil

IF YOU ANSWERED "NO", YOU MUST PROPERLY MARK EACH FILL PORT IN ACCORDANCE WITH THE INFORMATION NOTED ABOVE.

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TANK SURVEY FORM

TANK NUMBER TANK SIZE SUBSTANCE STORED	TANK	NUMBER	T	ANK	SIZE		SUBSTANCE		
--	------	--------	---	-----	------	--	-----------	--	--

- 1. Is the tank made of *Steel*, *Fiberglass* or *Other material* (list the other material)?

 ______ If the tank is not made of steel or is jacketed in a non-corrodible material such as fiberglass, the tank is in compliance with corrosion protection.
- Y NIf the tank is made of steel, does it have corrosion protection (cathodic protection or internal lining)? If "YES", use checklist number 12.

 ${\hbox{NOTE}\over\hbox{cont}}$ - Tank systems installed after December 21, 1988 (except those used to ${\hbox{cont}}$ in heating oil for on-site consumption) must have corrosion protection or they are not in compliance with the federal and state rules as noted above. Heating oil systems installed after September 3, 1990 must have corrosion protection or the systems are not in compliance with federal and state rules.

IF YOUR SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION AS NOTED ABOVE, BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 2. Is the piping made of *steel* or other metal, *Fiberglass* or *Other material* (list the other material? ______ If the piping is not made of metal or is secondarily contained within a non-corrodible material such as fiberglass, the piping is in compliance with corrosion protection.
- Y = N If the piping is made of steel or another metal, does it have corrosion protection (cathodic protection)? If "YES", use checklist number 12.

NOTE - Metallic piping systems installed after December 21, 1988 (except those used with heating oil tanks used for on-site consumption) must have corrosion protection (dielectric coating and cathodic protection or isolation from the soil surrounding piping, ie: secondary containment) or they are not in compliance with the federal and state rules. Heating oil piping installed after September 3, 1990 must have corrosion protection or the tank system is not in compliance.

IF YOUR PIPING SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.



Y

Y

Y



TANK SURVEY FORM (cont.)

TANK	NUMBER	TANK	SIZE	SUBSTANCE	CTORFD	
T LITAIL	INCLIDIT	IANK		 DODDIANCE	SIOKED	

- 3. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the tank.

 (Heating oil tanks do not require release detection monitoring until December 22, 1998)
- Y a. Inventory control with tightness testing. If "YES" use checklist number 1.
- Y b. Statistical Inventory Control (SIR). If "YES", use checklist number 2.
- Y c. Manual tank gauging. If "YES", use checklist number 3.
- Y d. Automatic tank gauging (ATG or In-tank monitoring). If "YES", use checklist number 4.
- Y e. Ground water monitoring. If "YES" use checklist number 5.
- Y f. Soil vapor monitoring. If "YES", use checklist number 6.
 - g. Interstitial monitoring (the tank is either double walled or in a lined excavation). If "YES", use checklist number 7.
 - $\underline{\text{NOTE}}$ Owners and operators of all tanks (except for those containing heating oil used for on-site consumption) must be performing release detection monitoring at this time.
 - **IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE TANK AT THIS TIME, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.**
- f 4. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the piping.

(Heating oil piping does not require release detection monitoring until December 22, 1998).

- ${
 m Y}$ a. Tightness test. If "YES", use checklist number 8.
- Y b. SIR. If "YES", use checklist number 2.
 - c. Ground water monitoring. If "YES", use checklist number 5.
- Y d. Soil vapor monitoring. If "YES", use checklist number 6.
- Y e. Electronic monitoring. If "YES", use checklist number 9.
 - f. Automatic line leak detection. If "YES", use checklist number 10.
- Y g. Interstitial monitoring (the piping is either double walled or in a lined excavation). If "YES", use checklist number 7.
- Y h. NONE. Piping system is European suction (check valve at base of piping). If "YES", use checklist number 11.
 - ${
 m \underline{NOTE}}$ ${
 m All}$ pressurized piping systems must have one of the methods of leak detection noted above ${
 m \underline{AND}}$ an automatic line leak detector (a method to detect a 3 gallon per hour leak at 10 psi operating pressure within one hour). If the tank system uses pressurized piping but does not have an automatic line leak detector, the system is out of compliance for leak detection monitoring.





TANK SURVEY FORM (cont.)

TANK	NUMBER	TANK	SIZE		SUBSTANCE	STORED	
------	--------	------	------	--	-----------	--------	--

IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE PIPING, OR PRESSURIZED PIPING IS USED AND THERE IS NO AUTOMATIC LINE LEAK DETECTOR, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 5. Does the tank system have a spill bucket? If "YES" use checklist number 13.
- Y N
- 6. Does the tank system have overfill protection? If "YES" use checklist number 13.
- Y N

 ${
m NOTE}$ - If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have both spill prevention and overfill prevention, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

IF YOUR UNDERGROUND STORAGE TANK SYSTEM IS REQUIRED TO HAVE SPILL PREVENTION AND OVERFILL PREVENTION BUT DOES NOT HAVE ONE OR BOTH OF THESE ITEMS, CIRCLE "NO" FOR SPILL PREVENTION AND/OR OVERFILL PREVENTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

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Checklist 1 - Release Detection Monitoring



INVENTORY CONTROL WITH TANK TIGHTNESS TESTING

(See Straight Talk on Tanks, page 16)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
Yes	No	
		Tank product level, product volume and amount of product pumped is recorded daily.
		Product level is measured with $1/8$ inch accuracy. (Conversion to volume should be made using a tank chart with $1/8$ inch accuracy)
		Volume of delivery is compared with volume available in the tank. (Measurements of product volume available in the tank must be made before and after each delivery. The amount delivered noted on the delivery receipt
		should be compared with the calculated volume change in the tank) Has the dispenser meter been calibrated in accordance with the rules set by Weights and Measures?
		Do you check for water in the tank at least once every month? Do you reconcile your inventory each month? (See item 3 and 4 below) Do you test your tank at the required frequency? (Tank tightness tests - see
		items 1 and 2 below) Do you maintain copies of all of your tank tightness tests?

- 1. A tank must be tested at least once per year if it does not have corrosion protection, spill prevention and overfill prevention. A tank with these items may be tested once every 5 years for the 10 years after obtaining these items.
- 2. You must maintain a copy of the tank test manufacturer's certification of test performance. All tank tests must be able to identify a 0.1 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of test equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: tank size, minimum volume of product in tank at the time of the test or the type of product stored).
- 3. Reconciliation of the inventory must be performed once per month. If a discrepancy of 1% throughput + 130 gallons occurs, the tank owner or operator must investigate a suspected release. Owners and operators have 7 days to identify if there is a problem such as meter calibration or incorrect arithmetic or if there is a leaking tank. If it is determined that there is an error in the data, owners and operators must maintain records of the correction. If no error can be found or the tank is determined to be leaking, owners and operators must cease use of the tank system, call the Department's Hot-line at (609)292-7172 and begin a site investigation in accordance with N.J.A.C. 7:26E.
- 4. Failure of tank test must be reported to the Department Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. Retests are allowed provided that the original test is inconclusive due to loose fittings on a tank or other factors which are positively identified. All tanks which have released product shall be emptied and either repaired or removed.



STATISTICAL INVENTORY RECONCILIATION (SIR)

(See Straight Talk on Tanks, page 14)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is the daily inventory information analyzed each month by a company providing the service of SIR? (see item 2 below)
		Is the inventory information obtained and recorded each day in the manner set forth by the SIR company?
		Are the results of all of the SIR analyses maintained and available for inspection by the Department?
		Does the SIR method meet the performance standard listed in 3 below?

- 1. If the results of any month's SIR indicate a release, the owner or operator must contact the Department Hot-line at (609)292-7172 and perform a site investigation in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.
- 2. Release detection must be completed once each month. If the results of one months SIR is "inconclusive", the tank system is out of compliance with the requirements of release detection monitoring.
- 3. You must maintain a copy of the SIR manufacturer's certification of test performance. All SIRs must be able to identify a 0.2 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of SIR must have independent laboratories test and certify that the method of release detection meets this standard. This form identifies the ability of the method to meet this standard as well as the limitations on the method (for example: tank size, seasonal problems or the type of product stored).

Checklist 3 - Release Detection Monitoring



MANUAL TANK GAUGING

(See Straight Talk on Tanks, page 20)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	<u>NO</u>	Is manual tank gauging performed every 7 days? (see item 1 below)
		Is the tank capacity 2,000 gallons or less? (see item 3 below)
		Is the tank taken out of service for the correct amount of time? (See item $3\ \mbox{below})$
		Product level is measured with $1/8$ inch accuracy. (Conversion to volume should be using a tank chart with $1/8$ inch accuracy)
		Are the results of all manual tank gauging maintained and available for inspection by the Department?
		Are the records of the required tightness tests maintained and available for inspection by the Department? (See item 2 below) ** DO NOT answer this question if it is not applicable!! **

NOTES:

- 1. Each week when the test is performed, the product level in the tank must be measured twice at the beginning and twice at the end of the test. The product level is the average of the two measurements.
- 2. Tanks up to 1,000 gallons capacity may use manual tank gauging as the sole method of release detection. Tanks 1,001 to 2,000 gallons capacity may use manual tank gauging in place of inventory control when the method of release detection monitoring is tank testing performed with inventory control.
- 3. To perform manual tank gauging, every 7 days:

Tanks up to 550 gallons must be taken out of service for 36 hours.

Tanks 1,000 gallons with a diameter of 54 inches must be taken out of service for 44 hours.

Tanks 1,000 gallons with a diameter of 48 inches must be taken out of service for 58 hours.

Tanks 1,000 to 2,000 gallons which are tank tested and use manual tank gauging in place of inventory control must be taken out of service for 36 hours.

4. A weekly or monthly volume variation in excess of the allowable limits ($\underline{\text{See Straight}}$ $\underline{\text{Talk on Tanks}}$) requires the owner or operator to investigate a suspected release. Within 7 $\underline{\text{days}}$ the owner or operator must identify if the measured volumetric variation is due to mathematical error or represents a release. If it is due to error, records of the correction must be maintained. If it is due to a release, the owner or operator must cease use of the tank system, contact the Department's Hot-line at (609)292-7172 and begin a site investigation in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.

Checklist 4 - Release Detection Monitoring



AUTOMATIC TANK GAUGING (ATG) or IN-TANK MONITORING

(See Straight Talk on Tanks, page 8)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the ATG complete a leak test at least once every 30 days? (see item 2 below) $$
		Are the results of all of the ATG leak tests maintained and available for inspection by the Department? (see item 4 below)
		(Most ATG systems print the test results as well as the date and time of the test completion.) $$

- 1. You must maintain a copy of the ATG manufacturer's certification of test performance. All ATGs must be able to identify a 0.2 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of release detection equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: tank size, minimum volume of product in tank at the time of the test or the type of product stored).
- 2. Tanks must be tested at least once every month. If the results of one months ATG leak test is "inconclusive", the tank system is out of compliance with the requirements of release detection monitoring.
- 3. An ATG leak test indicating a discharge from the tank must be reported to the Department's Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.
- 4. Records of maintenance of the ATG must be maintained and available for inspection by the Department.

Checklist 5 - Release Detection Monitoring



GROUND WATER MONITORING

(See Straight Talk on Tanks, page 12)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO ——	Is ground water monitoring used at least once every 30 days to monitor for signs of a discharge into ground water?
		Can the equipment used detect as little as $1/8$ product floating on the ground water? (The equipment may be electronic sensors or manual bailing of the well)
		Is ground water present in the $well(s)$ all year round, and is ground water always present at 20 feet below grade or shallower?
		Are records of all ground water monitoring events maintained and available for inspection by the Department? (See item 2 below)
		Are the condition noted below in Notes 1b, 1c and 1d met at this location?

- To use ground water monitoring for the monthly method of release detection: a. ground water may never be deeper than 20 feet below grade;

 - the product stored must be less dense than ground water (it floats); b.
 - soil surrounding the tank system must be very porous (mostly sand); c.
 - wells must be properly constructed to prevent infiltration of contamination from the surface; and
 - there must be a sufficient number of wells to identify a leak from any portion of the tank system within 30 days of the occurrence of the discharge.
- 2. Records of maintenance or calibration of electronic sensors must be maintained and available for inspection by the Department. Electronic sensors should be inspected once a month to ensure they are operating properly.
- Wells must be properly labelled and secured against tampering. Security may be a lock or a cap that requires tools for removal.
- The presence of product, a product sheen or odor in the monitoring well indicates a release. Owners or operators must notify the Department's Hot-line at (609)292-7172 and perform a site investigation in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.

Checklist 6 - Release Detection Monitoring



SOIL VAPOR MONITORING

(See Straight Talk on Tanks, page 10)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is soil vapor monitoring used at least once every 30 days to monitor for signs of a discharge into the environment?
		The system is able to identify a release without interference from ground water.
		Are records of all soil vapor monitoring events maintained and available for inspection by the Department?
		Are the condition noted below in Notes 1a through 1f met at this location?
$\frac{\overline{\text{NOTES}}}{1}$.		e soil vapor monitoring for the monthly method of release detection:

- a. ground water may never interfere with the monitoring equipment's ability to detect vapors (for example, a high ground water table);
- b. existing contamination may not interfere with the monitoring equipment's ability to detect vapors;
- c. the product stored must be volatile (go easily into a vapor state such as gasoline);
- d. soil surrounding the tank system must be very porous (mostly sand);
- e. wells must be properly constructed to prevent infiltration of contamination from the surface; and
- f. there must be a sufficient number of wells to identify a leak from any portion of the tank system within 30 days of the occurrence of the discharge.
- 2. Records of maintenance or calibration of electronic sensors must be maintained and available for inspection by the Department. Electronic sensors should be checked each month to ensure they are operating properly.
- 3. Wells must be properly labelled and secured against tampering. Security may be a lock or a cap that requires tools for removal.
- 4. The presence of vapors in concentrations above the background level indicates a release. Owners or operators must notify the Department's Hot-Line at (609)292-7172 and perform a site investigation in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.
- 5. If an electronic soil vapor monitoring system is used, you must maintain a copy of the soil vapor monitoring system manufacturer's certification of test performance. Manufacturers of soil vapor monitoring systems must have independent laboratories test and certify that the equipment meets the standards set by the U.S.E.P.A. This certification identifies the ability of the test equipment to meet the U.S.E.P.A. standard as well as the limitations on the equipment (for example: the type of product stored or background contamination).

Checklist 7 - Release Detection Monitoring



INTERSTITIAL MONITORING

SECONDARY CONTAINMENT (DOUBLE WALLED SYSTEMS OR LINED EXCAVATIONS)

(See Straight Talk on Tanks, page 6)

TANK	NUMBER	RTANK SIZE SUBSTANCE STORED	
YES	NO		
		The interstitial space (the space between both walls of the sysmonitored at least once every $30\ \mathrm{days}$.	stem) is
		If an electronic system is used, is it checked each month to ensur operating properly? (DO NOT answer if this question does not apply underground storage tank system) (see item 2 below)	
		Are records of all interstitial monitoring events maintained and avail inspection by the Department?	able for

- 1. Interstitial monitoring may be electronic (liquid or vapor sensor), manual (liquid or vapor inspection), hydraulic (interstice filled with brine), or pressure/vacuum monitoring.
- 2. Records of maintenance or calibration of electronic sensors must be maintained and available for inspection by the Department. Electronic sensors should be inspected once a month to ensure they are operating properly.
- 3. Should the interstitial monitor indicate a release, the system should be emptied and repaired or removed.

Checklist 8 - Release Detection Monitoring



PIPING TIGHTNESS TEST

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is the tightness test performed at the proper frequency? (See item 1 below
		Do you maintain copies of all of your piping tightness tests?

- 1. Piping must be tested according to the following schedule:
 - Once each year for pressurized piping.
 - Once every three years for "American-style" suction piping (check valve is at the base of the piping at the tank).
 - Not necessary for "European-style" suction piping (check valve is at the dispenser [top of piping] See Checklist 11).
- 2. You must maintain a copy of the tank test manufacturer's certification of test performance. All tank tests must be able to identify a 0.1 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of test equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: tank size, minimum volume of product in tank at the time of the test or the type of product stored).
- 3. Failure of a piping test must be reported to the Department Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. All tank systems which have released product shall be emptied and either repaired or removed.
- 4. REMEMBER: If the piping system is pressurized, it also needs an automatic line leak detector.
- 5. If the piping tightness test is conducted by a permanently installed monitoring system, all records of calibration, repair and maintenance must be maintained and available for inspection by the Department.

Checklist 9 - Release Detection Monitoring



ELECTRONIC PIPING MONITORING

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the electronic piping monitor complete a leak test at least once every 30 days?
		Are the results of all of the electronic piping monitoring tests maintained and available for inspection by the Department? (Most electronic piping test systems print the test results as well as the date and time of the test completion.)

- 1. Electronic piping monitoring systems use in-line pressure sensors to monitor the pressure in the piping when the system is not dispensing product. A loss of pressure indicates a problem with the piping.
- 2. You must maintain a copy of the electronic piping monitor manufacturer's certification of test performance. All monitoring systems must be able to identify a 0.2 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of release detection equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: piping length or the type of product stored).
- 3. Piping must be tested at least once every month. If the results of one months leak test is "inconclusive", the tank system is out of compliance with the requirements of release detection monitoring.
- 4. Leak test results indicating a release must be reported to the Department's Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. All tank systems which have released product shall be emptied and either repaired or removed.
- 5. Records of maintenance of the electronic piping monitoring system must be maintained and available for inspection by the Department.

Checklist 10 - Release Detection Monitoring



AUTOMATIC LINE LEAK DETECTION

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is an automatic line leak detector present on the tank system? (see note 1 below)
		Has the automatic line leak detector been tested in the past year?
		Do you maintain records of all maintenance, operational tests and repairs of the automatic line leak detector?
		Has the automatic line leak detector indicated a release from the piping?
		If "YES", has the suspected release been investigated?

- 1. An automatic line leak detector is needed on pressurized piping ONLY. It is a mechanical or electronic device which either restricts the flow of product to the dispenser or alerts the operator within 60 minutes when there is a 3 gallon per hour leak when operating at 10 pounds per square inch. The mechanical devices, commonly referred to as "red jackets" after one company that manufactures them, commonly restrict flow to the dispenser. Electronic devices commonly alert the operator of a problem. Electronic devices include electronic monitoring of the piping interstitial space or product-tight sump, and in-line pressure sensors. In-line pressure sensors monitor the pressure in the piping when the system is not dispensing product. A loss of pressure indicates a problem with the piping.
- 2. All line leak detectors must be able to detect a 3 gph release within 60 minutes when operating at 10 psi. Records of the manufacturer's performance claims and independent testing results must be maintained and available for inspection by the Department.
- 3. A release is suspected when an electronic system goes into alarm or the mechanical system restricts the flow of product to the dispenser or acts erratically. Owners and operators must investigate and confirm or disprove the suspected release within 7 days in accordance with N.J.A.C. 7:14B-7. Systems found to be releasing product must be emptied and then repaired or taken permanently out of service and a site investigation performed in accordance with N.J.A.C. 7:26E.



Checklist 11 - Release Detection Monitoring

EUROPEAN SUCTION DISPENSING SYSTEM

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the piping slope from the dispenser to the underground storage tank?
		Is there only one check valve in the piping?
		Is the check valve located directly beneath the dispenser?

- 1. All information requested above must be easily determined. Owners and operators should have a written certification of the tank system construction by the tank system installer.
- 2. If you answered "NO" to any of the questions above, you do not have European suction piping and must have one of the release detection monitoring systems for piping noted in Checklists 2, 5, 6, 7, 8, 9, or 10.
- 3. A release is suspected when the piping does not remain primed when the dispenser is shut off. This can be identified when the nozzle is opened and there is a long delay before product flow begins or no product flows through the nozzle. Owners and operators must investigate and confirm or disprove the suspected release within 7 days in accordance $N.J.A.C.\ 7:14B-7$. Systems found to be releasing product must be emptied and then repaired or taken permanently out of service and a site investigation performed in accordance with $N.J.A.C.\ 7:26E.$

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Checklist 12 - Upgrades



CORROSION PROTECTION

(See Don't Wait Until 1998, pages 8 through 11)

TANK NUMBER	TANK SIZE SUBSTANCE STORED
ONLY ANSWE	ER QUESTIONS FROM THE SECTION(S) THAT APPLY TO YOUR TANK SYSTEM
YES NO	
SECTION I	Cathodic Protection (Impressed Current Systems) Were the anodes tested within 6 months of installation to ensure that they are working properly? Is the Impressed Current System checked every 60 days to ensure it is turned on and operating properly? Are the anodes tested every 3 years to ensure there is sufficient life left in them? Have you maintained for Department inspection all records of maintenance, repair, inspection and testing of the cathodic protection system?
<u>SECTION II</u>	Cathodic Protection (Sacrificial Anode Systems) Were the anodes tested within 6 months of installation to ensure that they are working properly? Are the anodes tested every 3 years to ensure there is sufficient life left in them? Have you maintained for Department inspection all records of maintenance, repair and testing of the cathodic protection system?
SECTION III	Internal Lining (Tanks Only) If the system was upgraded with internal lining, was a permit obtained from the Department for the installation of the cathodic protection system? (Do not answer if the tank had internal lining before September 4, 1990) If the lining is greater than 10 years old, has an inspection of it been performed? Have you maintained for Department inspection all records of installation and inspection of the interior lining?

- 1. All tank systems installed after December 22, 1988 (except for tank systems used to contain heating oil for on-site consumption) must have corrosion protection or they out of compliance with the federal and state regulations. Heating oil tank systems installed after September 3, 1990 must have corrosion protection or they are out of compliance with the regulations. Systems installed before these dates must be upgraded with corrosion protection by December 22, 1998 or be removed.
- If your tank system (tank, piping or both) is out of compliance for corrosion protection, circle "No" on the Self-Inspection Checklist Summary.
- 2. Corrosion protection for a tank system is defined as construction with non-corrodible materials such as fiberglass or fiberglass coated steel, cathodic protection (impressed current or sacrificial anode systems), interior tank lining (not available for piping) or any combination of these.
- 3. Corrosion protection is needed for <u>all</u> metallic portions of the tank system. The tank and piping may have different forms of corrosion protection.
- 4. The anodes of cathodic protection systems must be tested by an individual who is a

Department certified Cathodic Protection Expert or Cathodic Protection Tester within 6 months of installation to ensure they are operating properly.

- 5. The anodes of cathodic protection systems must be tested every 3 years by an individual who is a Department certified Cathodic Protection Expert or Cathodic Protection Tester to ensure they have sufficient life left in them.
- 6. Owners and operators of impressed current cathodic protection systems must inspect the control box at least once every 60 days to ensure it is turned on and operating properly. Remember, impressed current cathodic protection systems which are turned off or are not operating properly are not protecting the tank system from corrosion. Records of this inspection must be maintained and available for Department inspection.
- 7. Internal linings of tanks must be inspected 10 years after installation and every 5 years thereafter by an individual who is a Department certified tank system installer.
- 8. When a tank system is upgraded with corrosion protection on or after September 4, 1990, the owner or operator must obtain a permit from the Department to perform the upgrade.



SPILL AND OVERFILL PREVENTION

(See Don't Wait until 1998, pages 4 through 7)

TANK NUMBER	TANK SIZE SUBSTANCE STORED
** Only ans	wer applicable questions, leave all others blank. **
YES NO	
	Spill Prevention (spill bucket or product-tight chamber) Is the spill bucket or product-tight chamber free of dirt, product and moisture?
— — 	Overfill Prevention One of the following overfill prevention systems has been installed: - Automatic shutoff device - Flow restrictor - Alarm

NOTES:

1. All tank systems installed after December 22, 1988 must have spill and overfill prevention except heating oil. Heating oil tank systems installed after September 3, 1990 must have spill and overfill prevention. Systems installed before these dates must be upgraded with spill and overfill prevention by December 22, 1998 or be removed.

If your tank system is out of compliance for spill prevention and/or overfill prevention, circle "No" for these items on the Self-Inspection Checklist Summary.

- 2. Tank systems which are filled by transfers of 25 gallons or less do not need spill and overfill prevention.
- 3. If the system is upgraded with a spill prevention or overfill prevention on or after September 4, 1990, the owner or operator must obtain a permit from the Department to perform the upgrade.

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New Jersey Department of Environmental Protection (DEP)

SELF-INSPECTION CHECKLIST SUMMARY

	T		
UST REGISTRATION	NUMBER 0		
Facility Name Street Address _ City	County	Zip	Code
Facility Contact Contact Phone Num	ber ()		

Please fill in the tank number for each tank system (tank and piping) at your site and circle "Yes" or "No" for each of the items below: (If you have more than 5 tank systems, copy this form and staple the additional copy(ies) to this form.)

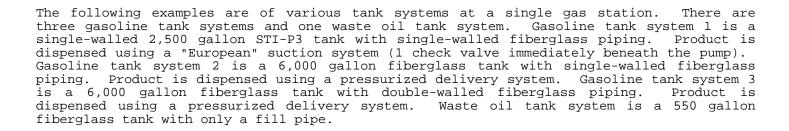
Are you in compliance with:	Tank System #				
Release Detection Monitoring	Yes No	Yes No	 Yes No	Yes No	Yes No
Spill Prevention	Yes No	 Yes No	 Yes No	Yes No	Yes No
Overfill Prevention	Yes No	 Yes No	 Yes No	Yes No	Yes No
Corrosion Protection	Yes No				

If you circled "YES" to all of the above, CONGRATULATIONS! You are currently in compliance with the underground storage tank requirements. Remember, if your tank was installed before December 22, 1988 and does not yet have spill prevention, overfill prevention or corrosion protection, you are CURRENTLY in compliance but will need to add these items before December 22, 1998.

If you circled "NO" to any of the above questions, you are not in compliance with the Underground Storage Tank rules. Please refer to "Straight Talk on Tanks" and "Don't Wait Until 1998" for additional information. After reviewing these documents, if you have any questions, please contact the Bureau of Underground Storage Tanks at (609) 292-8761.

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EXAMPLES



Tank System 1

One 2,500 gallon gasoline underground storage tank was installed in 1986. It is constructed of steel with factory installed sacrificial anode cathodic protection. The anodes have never been tested since the time of installation. The tank has a spill bucket but no overfill prevention. The piping originally was steel but was replaced with single-walled fiberglass in 1989. Product piping is the european suction type (one check valve directly below the dispenser) but there is no test port in the piping to prove that this is the only check valve. The tank owner has the plans from the installation which indicate that the piping is european suction.

(NOTE - Newer unions where the piping meets the dispenser come with a test port, a bolt that when removed allows air to enter the piping. If the product drains into the tank, it is assured that there is no working check valve anywhere below that point in the piping.)

Inventory for the tank is taken twice each day and reconciled each month. The piping is tested every 3 years. The tank system owner has maintained copies of the inventory with the reconciliations and the piping tests.

FILLING OUT THE SELF-INSPECTION CHECKLIST AND SUMMARY

1. Complete the Facility Survey and Tank Survey Forms. Please identify the tank systems by the same numbers as submitted on the tank registration questionnaire.

2. Facility Survey Form

a. Questions 1 & 2: Although questions 1 and 2 are not on the Self-Inspection Checklist Summary, be sure to answer them. Contact the Department if the information in the registration is incorrect. Mark your fill ports if they are not already marked.

Tank Survey Form

- b. Question 1: You should identify the material that your tank is made from. Since the tank in the example is steel and is cathodically protected, continue and answer the question which asks if the system has corrosion protection. Question 1 indicates that Checklist 12 should be completed.
- c. <u>Question 2</u>: The piping is made from a material other than metal, therefore the checklist for corrosion protection (Checklist 12) does not need to be filled out. Note that the piping is in compliance for corrosion protection since fiberglass will not corrode when in contact with the soil.
- d. <u>Question 3</u>: Question 3 asks which form of release detection monitoring is used with the tank. Although the inventory is taken every day and reconciled each month, this alone does not constitute release detection. When performing inventory control, the tank must periodically be tested also. The tank has never been tested so it is

not in compliance with the release detection monitoring requirements. See the section in "Straight Talk On Tanks" regarding tank tightness testing with inventory control.

- e. $\underline{\text{Question 4}}$: Question 4 asks which form of release detection monitoring is used with the piping. The piping is tested every 3 years. This an acceptable method for all suction piping. Since the plans indicate that the piping is european style, no monitoring is necessary to be in compliance for release detection monitoring. Therefore checklist 8 need not be completed, but checklist 11 should be completed for european suction systems.
- f. Questions 5 & 6: Older tanks, including heating oil tanks installed before September 4, 1990 and all others installed before December 22, 1988, are not required to have spill and overfill prevention at this time. Spill buckets and overfill prevention will be required on all older tanks by December 22, 1998 (See "Don't Wait Until 1998"). All newer tanks must have them. Although a spill bucket is not required at this time, since there is a spill bucket, checklist 13 must be completed.
- 3. Checklist 12

Only section II should be completed since the only form of corrosion protection is sacrificial anode cathodic protection. This system is not operated in compliance since the anodes are not tested every 3 years as required.

4. Checklist 11

To qualify as a european suction dispensing system, the piping must slope continuously from the dispenser to the tank, the product is drawn from the tank under negative pressure (suction) and only one check valve exists and it is immediately beneath the suction pump.

5. Checklist 13

Only answer the question regarding the spill bucket since no overfill prevention is present on the tank. Remember, because of the age of the tank system, spill prevention and overfill prevention are not required for this tank at this time but since there is a spill bucket, it must be properly maintained.

- 6. SELF-INSPECTION CHECKLIST SUMMARY
 - a. Fill out the header information about the station as noted.
 - b. For each tank system, note if it is in compliance with the requirements for each of the 4 items noted. Note in the example given, the piping was in compliance with release detection monitoring but the tank was not so that the SYSTEM is not considered in compliance. Likewise, note that although the system has no overfill prevention it is still in compliance since it is not required at this time for a tank system of this age. Finally, the tank system is not operated in compliance with the corrosion protection regulations since the anodes are not tested every 3 years.

Tank System 2

One 6,000 gallon gasoline underground storage tank system was installed in 1996. The tank is constructed of fiberglass. The tank has a spill bucket and an alarm which sounds when the tank is 95% full of product. The product piping is single-walled fiberglass. Product is dispensed using a submersible pump in the tank (therefore this is pressurized piping). Located on the pump is a mechanical line leak detector manufactured by the Marley Pump Company. The manufacturer certifies that this device is capable of detecting a 3 gallon per hour leak within one hour when it is operated at 10 psi. When a leak is detected, the mechanical device restricts product flow to the dispenser. This mechanical device is tested every year to see if it is operating properly. The owner of the tank has an automatic tank gauge (ATG) which is independently certified to detect leaks as small as 0.2 gallons per hour. Each night when the station is closed, the owner runs a test using the ATG. The owner also uses the ATG each morning to keep track of the inventory in the tank.

The owner has records of each nightly test performed by the ATG as well as the inventory records.

FILLING OUT THE SELF-INSPECTION CHECKLIST AND SUMMARY

1. Complete the Facility Survey and Tank Survey Forms. Please identify the tank systems by the same numbers as submitted on the tank registration questionnaire.

2. Facility Survey Form

a. Questions 1 & 2: Although questions 1 and 2 are not on the Self-Inspection Checklist Summary, be sure to answer them. Contact the Department if the information in the registration is incorrect. Mark your fill ports if they are not already marked.

Tank Survey Form

- b. Question 1: You should identify the material that your tank is made from. Since the tank in the example is fiberglass, it needs no additional corrosion protection. Checklist 12 is not to be completed, because cathodic protection and internal lining are not need on a fiberglass tank.
- c. <u>Question 2</u>: The piping is made from a material other than metal, therefore the checklist for corrosion protection (Checklist 12) does not need to be filled out. Note that the piping is in compliance for corrosion protection since fiberglass will not corrode when in contact with the soil.
- d. Question 3: Question 3 asks which form of release detection monitoring is used with the tank. Although the inventory is taken every day, it is only an acceptable method of release detection when periodic tank tightness testing is also performed. Therefore, it should not be checked off as a method of release detection monitoring. The owner uses an automatic tank gauge (ATG) to monitor the tank. Each night when the station is closed it runs a test. Question 3 indicates that checklist 4 needs to be completed.

Please note that some of the tests run will not be valid. The ATG runs a test each night independent of the level of product in the tank. Most ATG's are evaluated to perform the test when there is at least 50% of the tank filled with product. Any test where the product is less than the approved level is not considered valid. So if a test is run only once per month as required and the product level is below 50% of the tank volume, the test is invalid and the tank is out of compliance that month for release detection monitoring.

- e. Question 4: Question 4 asks which form of release detection monitoring is used with the piping. Two forms of monitoring are needed for pressurized piping: periodic testing or monthly monitoring and hourly monitoring for large leaks using an automatic line leak detector. This system has an automatic line leak detector yet lacks the testing or monthly monitoring. Therefore, the tank system is out of compliance with the federal and state rules. Circle "No" for release detection monitoring on the Self-Inspection Checklist Summary. Question 4 indicates that checklist 10 needs to be completed.
- f. Questions 5 & 6: Newer tanks, including heating oil tanks installed after September 3, 1990 and all others installed after December 22, 1988, are required to have spill and overfill prevention at the time of installation. Spill buckets and overfill prevention will be required on all older tanks by December 22, 1998 (See "Don't Wait Until 1998"). Since there is a spill bucket and overfill prevention, checklist 13 must be completed.

3. Checklist 4

When an automatic tank gauge (ATG) is used to monitor the tank, a test must be performed at least once per month. Documentation of the test should be kept for at least 6 years and approval from the Department received before they are destroyed. The ATG should be used in accordance with the manufacturers' requirements (for example, the tank must be at least 1/2 full of product). Both questions on checklist 4 are answered "yes" for this example yet the tank system is not properly monitored because the piping is not monitored.

4. Checklist 10

Checklist 10 addresses one of the two methods required for piping. It is important to note that the automatic line leak detector must be tested once every year. The

first 3 questions on checklist 10 indicate if the automatic line leak detector is being used properly.

5. Checklist 13

Since the tank system in the example is a newer system (installed after the dates noted above), it must have both spill and overfill prevention. Therefore both questions on Checklist 13 must be answered. This tank system is in compliance for spill and overfill prevention.

6. SELF-INSPECTION CHECKLIST SUMMARY

- a. Fill out the header information about the station as noted.
- b. For each tank system, note if it is in compliance with the requirements for each of the 4 items noted. Note in the example given, the piping was not in compliance with release detection monitoring but the tank was, therefore the SYSTEM is not considered in compliance.

Tank System 3

One 6,000 gallon gasoline underground storage tank system was installed in 1996. The tank is constructed of fiberglass. The tank has a spill bucket and an alarm which sounds when the tank is 95% full of product. The product piping is double-walled fiberglass. Product is dispensed using a submersible pump in the tank (therefore it is pressurized piping). There is no mechanical line leak detector attached to the submersible pump. The owner of the tank has an automatic tank gauge (ATG) which is independently certified to detect leaks as small as 0.2 gallons per hour. Each night when the station is closed, the owner runs a test using the ATG. The owner also uses the electronic monitoring system to continuously monitor for product in the sump where the piping slopes back to.

The owner has records of each nightly test performed by the ATG as well as the inventory records.

FILLING OUT THE SELF-INSPECTION CHECKLIST AND SUMMARY

1. Complete the Facility Survey and Tank Survey Forms. Please identify the tank systems by the same numbers as submitted on the tank registration questionnaire.

2. Facility Survey Form

a. Questions 1 & 2: Although questions 1 and 2 are not on the Self-Inspection Checklist Summary, be sure to answer them. Contact the Department if the information in the registration is incorrect. Mark your fill ports if they are not already marked.

Tank Survey Form

- b. Question 1: You should identify the material that your tank is made from. Since the tank in the example is fiberglass, it need not have any additional method of corrosion protection. Question 1 indicates that Checklist 12 is not to be completed because cathodic protection and internal lining are not needed on a fiberglass tank.
- c. <u>Question 2</u>: The piping is made from a material other than metal, therefore the checklist for corrosion protection (Checklist 12) does not need to be filled out. Note that the piping is in compliance for corrosion protection since fiberglass will not corrode when in contact with the soil.
- d. Question 3 constraints Question 3 asks which form of release detection monitoring is used with the tank. The owner uses an automatic tank gauge (ATG) to monitor the tank. Each night when the station is closed it runs a test. Question 3 indicates that checklist 4 needs to be completed.

*Please note that some of the tests run will not be valid. The ATG runs a test each night independent of the level of product in the tank. Most ATG's are evaluated to perform the test when there is at least 50% of the tank filled with product. Any test where the product is less than the approved level is not considered valid. So

if a test is run only once per month as required and the product level is below 50% of the tank volume, the test is invalid and the tank is out of compliance that month for release detection monitoring.* In this case, since tests are run every night, testing is in compliance with the state and federal regulations.

- e. Question 4: Question 4 asks which form of release detection monitoring is used with the piping. Two forms of monitoring are needed for pressurized piping; periodic testing or monthly monitoring and hourly monitoring for large leaks using an automatic line leak detector. This system does not have a mechanical line leak detector; however, the product tight sump contains a sensor instantaneously detect any product that leaks from the piping and drains into the sump. Therefore this system satisfies the requirements for an automatic line leak detector. Additionally, that same sensor represents the release detection monitoring of the piping. Therefore, checklists 7 and 10 should be completed.
- f. Questions 5 & 6: Newer tanks, including heating oil tanks installed after September 3, 1990 and all others installed after December 22, 1988, are required to have spill and overfill prevention at the time of installation. Spill buckets and overfill prevention will be required on all older tanks by December 22, 1998 (See "Don't Wait Until 1998"). Since there is a spill bucket and overfill prevention, checklist 13 must be completed.

Checklist 4 3.

When an automatic tank gauge (ATG) is used to monitor the tank, a test must be performed at least once per month. Documentation of the test should be kept for at least 6 years and approval from the Department received before they are destroyed. The ATG should be used in accordance with the manufacturers requirements (for example, the tank must be at least 1/2 full of product). Both questions on checklist 4 are answered "yes" for this example.

Checklist 7 4.

Checklist 7 has 3 questions, all of which must be answered since this system is electronically monitored (Remember, interstitial monitoring can be performed manually once per month). The electronic monitoring system must be checked once per month to ensure that it is operating properly. This usually is done by pressing a button at the control box to check if all circuits ore operational. In the example given, all questions were answered "Yes". Since both the piping and tank are in compliance with the requirements for release detection monitoring, "Yes" should be circled on the Self-Inspection Checklist Summary.

5.

to note that the automatic line leak detector must be tested once every year. The first 3 questions on checklist 10 indicate if the automatic line leak detector is being used properly. In this example, the operator is using interstitial monitoring as an acceptable alternative to an automatic line leak detector.

Checklist 13 6.

Since the tank system in the example is a newer system (installed after the dates noted above), it must have both spill and overfill prevention. Therefore both questions on Checklist 13 must be answered. This tank system is in compliance for spill and overfill prevention.

7. SELF-INSPECTION CHECKLIST SUMMARY

- Fill out the header information about the station as noted.
- For each tank system, note if it is in compliance with the requirements for each of the 4 items noted.

Tank System 4

One 550 gallon waste oil underground storage tank system was installed in 1996. The tank is constructed of fiberglass. The tank does not have a spill bucket nor overfill prevention. There is no product piping, only a single fill pipe which directly fills the tank. Once each week the owner ceases use of the tank for 36 hours and sticks the tank at the beginning and end of this time period.

The owner has records of each of the weekly gaugings. The difference in product from the beginning to the end of the test is calculated for each week and compared to the chart in "Straight Talk On Tanks". At the end of each month the weekly differences are averaged and compared once again to the chart.

FILLING OUT THE SELF-INSPECTION CHECKLIST AND SUMMARY

- 1. Complete the Facility Survey and Tank Survey Forms. Please identify the tank systems by the same numbers as submitted on the tank registration questionnaire.
- 2. Facility Survey Forms
 - a. Questions 1 & 2: Although questions 1 and 2 are not on the Self-Inspection Checklist Summary, be sure to answer them. Contact the Department if the information in the registration is incorrect. Mark your fill ports if they are not already marked.

Tank Survey Forms

- b. Question 1: You should identify the material that your tank is made from. Since the tank in the example is fiberglass, it need not have any additional method of corrosion protection. Question 1 indicates that Checklist 12 is not to be completed because cathodic protection and internal lining are not needed on a fiberglass tank.
- c. Question 2: There is no piping on this tank so the question should not be answered. Since the tank is made of fiberglass and there is not piping, "yes" should be circled for corrosion protection on the Self-Inspection Checklist Summary.
- d. Question 3: Question 3 asks which form of release detection monitoring is used with the tank. Because of the size of the tank, 550 gallons, the owner has chosen to perform manual tank gauging. It is important to note that the tank must be out of service for at least 36 hours each week to comply with the requirements of this method. The difference in volume for the duration of the test is compared to a standard in two ways: first, it is done each week; second, the weekly differences are averaged once each month and compared to the monthly standard. If the standard is exceeded for either the weekly difference or the average monthly difference, a leak is suspected and the tank owner must begin investigating to confirm or disprove it. Question 3 indicates that checklist #3 needs to be completed.
- e. $\underline{\text{Question 4}}$: Question 4 asks which form of release detection monitoring is used with the piping. Since there is no piping associated with the tank, this question does not need to be answered.
- f. Questions 5 & 6: Newer tanks, including heating oil tanks installed after September 3, 1990 and all others installed after December 22, 1988, are required to have spill and overfill prevention at the time of installation. Although this system has neither spill nor overfill prevention, it is in compliance with the regulations and "Yes" can be circled on the Self-Inspection Checklist Summary. This tank is filled by transfers of 25 gallons or less (usually 3 to 5 gallons at a time) and is therefore exempt from this requirement.

 ${\hbox{NOTE}}\colon$ Experience indicates that although a spill bucket is not required in this ${\hbox{situation}}$, it is still beneficial. Inspections of service stations by the Department have found that filling of the tank by pouring the waste oil in the fill pipe very often results in spillage onto the ground surrounding the tank. This could result in a costly cleanup in the future.

- Checklist 3
 - Checklist 3 list 6 questions. The last question is optional and to be used for tanks between 1,001 and 2,000 gallons in conjunction with periodic tank tightness testing. Whereas owners and operators of larger tanks must perform daily inventory and reconcile once each month when using tank tightness testing, manual tank gauging may be substituted for inventory control for tanks 1,001 to 2,000 gallons in size.
- 4. SELF-INSPECTION CHECKLIST SUMMARY
 - a. Fill out the header information about the station as noted.

b. For each tank system, note if it is in compliance with the requirements for each of the 4 items noted.





New Jersey Department of Environmental Protection (DEP)

SELF-INSPECTION CHECKLIST SUMMARY

UST REGISTRATION NUMBER		
Facility Name Street Address City	County	 Zip Code
Facility Contact Contact Phone Number (

Please fill in the tank number for each tank system (tank and piping) at your site and circle "Yes" or "No" for each of the items below: (If you have more than 5 tank systems, copy this form and staple the additional copy(ies) to this form.)

Are you in compliance with:	Tank System #	Tank System #	Tank System #	Tank System #	Tank System #
Release Detection Monitoring	Yes No	Yes No	 Yes No	Yes No	Yes No
Spill Prevention	Yes No	Yes No	 Yes No	Yes No	Yes No
Overfill Prevention	Yes No	Yes No	 Yes No	Yes No	Yes No
Corrosion Protection	Yes No	Yes No	Yes No	Yes No	Yes No

If you circled "YES" to all of the above, CONGRATULATIONS! You are currently in compliance with the underground storage tank requirements. Remember, if your tank was installed before December 22, 1988 and does not yet have spill prevention, overfill prevention or corrosion protection, you are CURRENTLY in compliance but will need to add these items before December 22, 1998.

If you circled "NO" to any of the above questions, you are not in compliance with the Underground Storage Tank rules. Please refer to "Straight Talk on Tanks" and "Don't Wait Until 1998" for additional information. After reviewing these documents, if you have any questions, please contact the Bureau of Underground Storage Tanks at (609) 292-8761.





FACILITY SURVEY FORM

- 1. Circle "Y" or "N" to the following questions:
- Υ a. Is the facility registration current? (Check the expiration date, the expiration should be some time in the future)
- Υ Ν b. Are all tanks which exist on-site listed on the current facility Certificate? The only exceptions are tanks that are not Registration Straight Talk on Tanks to determine if a tank is regulated (See page 28 of regulated) and those that were lawfully closed by receiving a Departmentissued closure approval or abandoned-inplace (internally cleaned and filled with a solid such as sand) prior to September 4, 1990.

IF YOU ANSWERED "NO" TO EITHER a OR b, CONTACT THE DEPARTMENT'S UST REGISTRATION BILLING SECTION AT (609) 633-0719. AND

- 2. Circle "Y" or "N" to the following question:
- At this time, all fillports are to be properly marked? Are the fillports marked in accordance with the recommendations of the American Petroleum Institute (API Recommended Practice 1637)?

(this applies to fuel tanks at gas stations and all heating oil tanks)

+----+

Markings:

- 1. Solid red circle leaded high grade gasoline
- Solid blue circle leaded middle grade gasoline
 Solid white circle leaded low grade gasoline

- 4. Red circular background with white cross unleaded high grade gasoline 5. Blue circular background with white cross unleaded middle grade gasoline
- 6. White circular background with black cross unleaded low grade gasoline
- 7. Solid yellow hexagon diesel fuel
- 8. Solid green hexagon #2 heating oil
- 9. Solid brown hexagon kerosene 10. Purple hexagon background with yellow bar #1 heating oil
- 11. Purple square with white "U" waste oil

IF YOU ANSWERED "NO", YOU MUST PROPERLY MARK EACH FILL PORT IN ACCORDANCE WITH INFORMATION NOTED ABOVE.





TANK SURVEY FORM

TANK NUMBER	TANK SIZE	SUBSTANCE	STORED	
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- 1. Is the tank made of *Steel*, *Fiberglass* or *Other material* (list the other material)?

 ______ If the tank is not made of steel or is jacketed in a non-corrodible material such as fiberglass, the tank is in compliance with corrosion protection.
- Y N If the tank is made of steel, does it have corrosion protection (cathodic protection or internal lining)? If "YES", use checklist number 12.

NOTE - Tank systems installed after December 21, 1988 (except those used to contain heating oil for on-site consumption) must have corrosion protection or they are not in compliance with the federal and state rules as noted above. Heating oil systems installed after September 3, 1990 must have corrosion protection or the systems are not in compliance with federal and state rules.

IF YOUR SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION AS NOTED ABOVE, BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 2. Is the piping made of *steel* or other metal, *Fiberglass* or *other material* (list the other material? ______ If the piping is not made of metal or is secondarily contained within a non-corrodible material such as fiberglass, the piping is in compliance with corrosion protection.
- Y N If the piping is made of steel or another metal, does it have corrosion protection (cathodic protection)? If "YES", use checklist number 12.

 ${\hbox{NOTE}\over\hbox{those}}$ - Metallic piping systems installed after December 21, 1988 (except those used with heating oil tanks used for on-site consumption) must have corrosion protection (dielectric coating and cathodic protection or isolation from the soil surrounding piping, ie: secondary containment) or they are not in compliance with the federal and state rules. Heating oil piping installed after September 3, 1990 must have corrosion protection or the tank system is not in compliance.

IF YOUR PIPING SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.





TANK SURVEY FORM (cont.)

TANK NUMBER TANK SIZE SUBSTANCE STORED	TANK	NUMBER	T	ANK	SIZE		SUBSTANCE		
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- Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the tank. (Heating oil tanks do not require release detection monitoring until December 22, 1998)
- Y a. Inventory control with tightness testing. If "YES" use checklist number 1.
- Y b. Statistical Inventory Control (SIR). If "YES", use checklist number 2.
- Y c. Manual tank gauging. If "YES", use checklist number 3.
- Y d. Automatic tank gauging (ATG or In-tank monitoring). If "YES", use checklist number 4.
- Y e. Ground water monitoring. If "YES" use checklist number 5.
- Y f. Soil vapor monitoring. If "YES", use checklist number 6.
- Y g. Interstitial monitoring (the tank is either double walled or in a lined excavation). If "YES", use checklist number 7.
 - $\underline{\text{NOTE}}$ Owners and operators of all tanks (except for those containing heating oil used for on-site consumption) must be performing release detection monitoring at this time.

IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE TANK AT THIS TIME, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

f 4. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the piping.

(Heating oil piping does not require release detection monitoring until December 22, 1998).

- Y a. Tightness test. If "YES", use checklist number 8.
- Y b. SIR. If "YES", use checklist number 2.
- Y c. Ground water monitoring. If "YES", use checklist number 5.
- Y d. Soil vapor monitoring. If "YES", use checklist number 6.
- ${
 m Y}$ e. Electronic monitoring. If "YES", use checklist number 9.
- Y f. Automatic line leak detection. If "YES", use checklist number 10.
- Y g. Interstitial monitoring (the piping is either double walled or in a lined excavation). If "YES", use checklist number 7.
- Y h. NONE. Piping system is European suction (check valve at base of piping). If "YES", use checklist number 11.

 ${
m NOTE}$ - All pressurized piping systems must have one of the methods of leak detection noted above ${
m AND}$ an automatic line leak detector (a method to detect a 3 gallon per hour leak at 10 psi operating pressure within one hour). If the tank system uses pressurized piping but does not have an automatic line leak detector, the system is out of compliance for leak detection monitoring.





TANK SURVEY FORM (cont.)

TANK I	NUMBER	TANK	SIZE		SUBSTANCE	STORED	
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IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE PIPING, OR PRESSURIZED PIPING IS USED AND THERE IS NO AUTOMATIC LINE LEAK DETECTOR, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 5. Does the tank system have a spill bucket? If "YES" use checklist number 13.
- Y N
- 6. Does the tank system have overfill protection? If "YES" use checklist number 13.
- Y N

 ${
m NOTE}$ - If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have both spill prevention and overfill prevention, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

IF YOUR UNDERGROUND STORAGE TANK SYSTEM IS REQUIRED TO HAVE SPILL PREVENTION AND OVERFILL PREVENTION BUT DOES NOT HAVE ONE OR BOTH OF THESE ITEMS, CIRCLE "NO" FOR SPILL PREVENTION AND/OR OVERFILL PREVENTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

3

CORROSION PROTECTION

(See Don't Wait Until 1998, pages 8 through 11)

TANK NUMBER	TANK SIZE SUBSTANCE STORED
ONLY ANSWE	ER QUESTIONS FROM THE SECTION(S) THAT APPLY TO YOUR TANK SYSTEM
YES NO	
<u>SECTION I</u>	Cathodic Protection (Impressed Current Systems) Were the anodes tested within 6 months of installation to ensure that they are working properly? Is the Impressed Current System checked every 60 days to ensure it is turned on and operating properly? Are the anodes tested every 3 years to ensure there is sufficient life left in them? Have you maintained for Department inspection all records of maintenance,
<u>SECTION II</u>	repair, inspection and testing of the cathodic protection system? Cathodic Protection (Sacrificial Anode Systems) Were the anodes tested within 6 months of installation to ensure that they are working properly? Are the anodes tested every 3 years to ensure there is sufficient life left in them? Have you maintained for Department inspection all records of maintenance, repair and testing of the cathodic protection system?
SECTION III	Internal Lining (Tanks Only) If the system was upgraded with internal lining, was a permit obtained from the Department for the installation of the cathodic protection system? (Do not answer if the tank had internal lining before September 4, 1990) If the lining is greater than 10 years old, has an inspection of it been performed? Have you maintained for Department inspection all records of installation and inspection of the interior lining?

- All tank systems installed after December 22, 1988 (except for tank systems used to contain heating oil for on-site consumption) must have corrosion protection or they out of compliance with the federal and state regulations. Heating oil tank systems installed after September 3, 1990 must have corrosion protection or they are out of compliance with the regulations. Systems installed before these dates must be upgraded with corrosion protection by December 22, 1998 or be removed.
- If your tank system (tank, piping or both) is out of compliance for corrosion protection, circle "No" on the Self-Inspection Checklist Summary.
- Corrosion protection for a tank system is defined as construction with non-corrodible materials such as fiberglass or fiberglass coated steel, cathodic protection (impressed current or sacrificial anode systems), interior tank lining (not available for piping) or any combination of these.



Checklist 11 - Release Detection Monitoring

EUROPEAN SUCTION DISPENSING SYSTEM

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the piping slope from the dispenser to the underground storage tank?
		Is there only one check valve in the piping?
		Is the check valve located directly beneath the dispenser?

- 1. All information requested above must be easily determined. Owners and operators should have a written certification of the tank system construction by the tank system installer.
- 2. If you answered "NO" to any of the questions above, you do not have European suction piping and must have one of the release detection monitoring systems for piping noted in Checklists 2, 5, 6, 7, 8, 9, or 10.
- 3. A release is suspected when the piping does not remain primed when the dispenser is shut off. This can be identified when the nozzle is opened and there is a long delay before product flow begins or no product flows through the nozzle. Owners and operators must investigate and confirm or disprove the suspected release within 7 days in accordance $N.J.A.C.\ 7:14B-7$. Systems found to be releasing product must be emptied and then repaired or taken permanently out of service and a site investigation performed in accordance with $N.J.A.C.\ 7:26E.$



SPILL AND OVERFILL PREVENTION

(See Don't Wait until 1998, pages 4 through 7)

TANK NUMBER	RTANK SIZE	SUBSTANCE STORED	
** Only ans	swer applicable questions, leave	all others blank. **	
YES NO			
		l Prevention product-tight chamber) oduct-tight chamber free of	f dirt, product and
	One of the following overfill: - Automatic shutoff device - Flow restrictor - Alarm	ll Prevention prevention systems has been :	installed:

NOTES:

1. All tank systems installed after December 22, 1988 must have spill and overfill prevention except heating oil. Heating oil tank systems installed after September 3, 1990 must have spill and overfill prevention. Systems installed before these dates must be upgraded with spill and overfill prevention by December 22, 1998 or be removed.

If your tank system is out of compliance for spill prevention and/or overfill prevention, circle "No" for these items on the Self-Inspection Checklist Summary.

- 2. Tank systems which are filled by transfers of 25 gallons or less do not need spill and overfill prevention.
- 3. If the system is upgraded with a spill prevention or overfill prevention on or after September 4, 1990, the owner or operator must obtain a permit from the Department to perform the upgrade.





TANK SURVEY FORM

TANK I	NUMBER	TANK	SIZE		SUBSTANCE	STORED	
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- 1. Is the tank made of *Steel*, *Fiberglass* or *Other material* (list the other material)?

 ______ If the tank is not made of steel or is jacketed in a non-corrodible material such as fiberglass, the tank is in compliance with corrosion protection.
- Y NIf the tank is made of steel, does it have corrosion protection (cathodic protection or internal lining)? If "YES", use checklist number 12.

 $\frac{\text{NOTE}}{\text{cont}}$ - Tank systems installed after December 21, 1988 (except those used to $\frac{1}{\text{cont}}$ in heating oil for on-site consumption) must have corrosion protection or they are not in compliance with the federal and state rules as noted above. Heating oil systems installed after September 3, 1990 must have corrosion protection or the systems are not in compliance with federal and state rules.

IF YOUR SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION AS NOTED ABOVE, BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 2. Is the piping made of *steel* or other metal, *Fiberglass* or *Other material* (list the other material? ______ If the piping is not made of metal or is secondarily contained within a non-corrodible material such as fiberglass, the piping is in compliance with corrosion protection.
- Y = N If the piping is made of steel or another metal, does it have corrosion protection (cathodic protection)? If "YES", use checklist number 12.

NOTE - Metallic piping systems installed after December 21, 1988 (except those used with heating oil tanks used for on-site consumption) must have corrosion protection (dielectric coating and cathodic protection or isolation from the soil surrounding piping, ie: secondary containment) or they are not in compliance with the federal and state rules. Heating oil piping installed after September 3, 1990 must have corrosion protection or the tank system is not in compliance.

IF YOUR PIPING SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.



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TANK SURVEY FORM (cont.)

TANK NUMBER TANK SIZE	SUBSTANCE STORED
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- 3. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the tank. (Heating oil tanks do not require release detection monitoring until December 22, 1998)
- Y a. Inventory control with tightness testing. If "YES" use checklist number 1.
- Y b. Statistical Inventory Control (SIR). If "YES", use checklist number 2.
- Y c. Manual tank gauging. If "YES", use checklist number 3.
- Y d. Automatic tank gauging (ATG or In-tank monitoring). If "YES", use checklist number 4.
- Y e. Ground water monitoring. If "YES" use checklist number 5.
- m Y f. Soil vapor monitoring. If "YES", use checklist number 6.
 - g. Interstitial monitoring (the tank is either double walled or in a lined excavation). If "YES", use checklist number 7.
 - $\underline{\text{NOTE}}$ Owners and operators of all tanks (except for those containing heating oil used for on-site consumption) must be performing release detection monitoring at this time.
 - **IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE TANK AT THIS TIME, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.**
- f 4. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the piping.

(Heating oil piping does not require release detection monitoring until December 22, 1998).

- Y a. Tightness test. If "YES", use checklist number 8.
- Y b. SIR. If "YES", use checklist number 2.
 - c. Ground water monitoring. If "YES", use checklist number 5.
- Y d. Soil vapor monitoring. If "YES", use checklist number 6.
- Y e. Electronic monitoring. If "YES", use checklist number 9.
- Y f. Automatic line leak detection. If "YES", use checklist number 10.
- Y g. Interstitial monitoring (the piping is either double walled or in a lined excavation). If "YES", use checklist number 7.
- Y h. NONE. Piping system is European suction (check valve at base of piping). If "YES", use checklist number 11.
 - NOTE All pressurized piping systems must have one of the methods of leak detection noted above AND an automatic line leak detector (a method to detect a 3 gallon per hour leak at 10 psi operating pressure within one hour). If the tank system uses pressurized piping but does not have an automatic line leak detector, the system is out of compliance for leak detection monitoring.





TANK SURVEY FORM (cont.)

TANK	NUMBER	TANK	SIZE		SUBSTANCE	STORED	
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IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE PIPING, OR PRESSURIZED PIPING IS USED AND THERE IS NO AUTOMATIC LINE LEAK DETECTOR, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 5. Does the tank system have a spill bucket? If "YES" use checklist number 13.
- Y N
- 6. Does the tank system have overfill protection? If "YES" use checklist number 13.
- Y N

 ${
m NOTE}$ - If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have both spill prevention and overfill prevention, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

IF YOUR UNDERGROUND STORAGE TANK SYSTEM IS REQUIRED TO HAVE SPILL PREVENTION AND OVERFILL PREVENTION BUT DOES NOT HAVE ONE OR BOTH OF THESE ITEMS, CIRCLE "NO" FOR SPILL PREVENTION AND/OR OVERFILL PREVENTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

Checklist 4 - Release Detection Monitoring



AUTOMATIC TANK GAUGING (ATG) or IN-TANK MONITORING

(See Straight Talk on Tanks, page 8)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the ATG complete a leak test at least once every 30 days? (see item 2 below) $$
		Are the results of all of the ATG leak tests maintained and available for inspection by the Department? (see item 4 below)
		(Most ATG systems print the test results as well as the date and time of the test completion.) $$

- 1. You must maintain a copy of the ATG manufacturer's certification of test performance. All ATGs must be able to identify a 0.2 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of release detection equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: tank size, minimum volume of product in tank at the time of the test or the type of product stored).
- 2. Tanks must be tested at least once every month. If the results of one months ATG leak test is "inconclusive", the tank system is out of compliance with the requirements of release detection monitoring.
- 3. An ATG leak test indicating a discharge from the tank must be reported to the Department's Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.
- 4. Records of maintenance of the ATG must be maintained and available for inspection by the Department.

Checklist 10 - Release Detection Monitoring



AUTOMATIC LINE LEAK DETECTION

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is an automatic line leak detector present on the tank system? (see note 1 below)
		Has the automatic line leak detector been tested in the past year?
		Do you maintain records of all maintenance, operational tests and repairs of the automatic line leak detector?
		Has the automatic line leak detector indicated a release from the piping?
		If "YES", has the suspected release been investigated?

- 1. An automatic line leak detector is needed on pressurized piping ONLY. It is a mechanical or electronic device which either restricts the flow of product to the dispenser or alerts the operator within 60 minutes when there is a 3 gallon per hour leak when operating at 10 pounds per square inch. The mechanical devices, commonly referred to as "red jackets" after one company that manufactures them, commonly restrict flow to the dispenser. Electronic devices commonly alert the operator of a problem. Electronic devices include electronic monitoring of the piping interstitial space or product-tight sump, and in-line pressure sensors. In-line pressure sensors monitor the pressure in the piping when the system is not dispensing product. A loss of pressure indicates a problem with the piping.
- 2. All line leak detectors must be able to detect a 3 gph release within 60 minutes when operating at 10 psi. Records of the manufacturer's performance claims and independent testing results must be maintained and available for inspection by the Department.
- 3. A release is suspected when an electronic system goes into alarm or the mechanical system restricts the flow of product to the dispenser or acts erratically. Owners and operators must investigate and confirm or disprove the suspected release within 7 days in accordance with N.J.A.C. 7:14B-7. Systems found to be releasing product must be emptied and then repaired or taken permanently out of service and a site investigation performed in accordance with N.J.A.C. 7:26E.



SPILL AND OVERFILL PREVENTION

(See Don't Wait until 1998, pages 4 through 7)

TANK NUMBER	RTANK SIZE	SUBSTANCE STORED	
** Only ans	swer applicable questions, leave	all others blank. **	
YES NO			
		l Prevention product-tight chamber) oduct-tight chamber free of	f dirt, product and
	One of the following overfill: - Automatic shutoff device - Flow restrictor - Alarm	ll Prevention prevention systems has been :	installed:

NOTES:

1. All tank systems installed after December 22, 1988 must have spill and overfill prevention except heating oil. Heating oil tank systems installed after September 3, 1990 must have spill and overfill prevention. Systems installed before these dates must be upgraded with spill and overfill prevention by December 22, 1998 or be removed.

If your tank system is out of compliance for spill prevention and/or overfill prevention, circle "No" for these items on the Self-Inspection Checklist Summary.

- 2. Tank systems which are filled by transfers of 25 gallons or less do not need spill and overfill prevention.
- 3. If the system is upgraded with a spill prevention or overfill prevention on or after September 4, 1990, the owner or operator must obtain a permit from the Department to perform the upgrade.





TANK SURVEY FORM

TANK	NUMBER	TANK	SIZE _	SUBSTANCE	STORED	

- 1. Is the tank made of *Steel*, *Fiberglass* or *Other material* (list the other material)?

 ______ If the tank is not made of steel or is jacketed in a non-corrodible material such as fiberglass, the tank is in compliance with corrosion protection.
- Y NIf the tank is made of steel, does it have corrosion protection (cathodic protection or internal lining)? If "YES", use checklist number 12.

 ${\hbox{NOTE}\over\hbox{cont}}$ - Tank systems installed after December 21, 1988 (except those used to ${\hbox{cont}}$ in heating oil for on-site consumption) must have corrosion protection or they are not in compliance with the federal and state rules as noted above. Heating oil systems installed after September 3, 1990 must have corrosion protection or the systems are not in compliance with federal and state rules.

IF YOUR SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION AS NOTED ABOVE, BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 2. Is the piping made of *steel* or other metal, *Fiberglass* or *Other material* (list the other material? ______ If the piping is not made of metal or is secondarily contained within a non-corrodible material such as fiberglass, the piping is in compliance with corrosion protection.
- Y = N If the piping is made of steel or another metal, does it have corrosion protection (cathodic protection)? If "YES", use checklist number 12.

NOTE - Metallic piping systems installed after December 21, 1988 (except those used with heating oil tanks used for on-site consumption) must have corrosion protection (dielectric coating and cathodic protection or isolation from the soil surrounding piping, ie: secondary containment) or they are not in compliance with the federal and state rules. Heating oil piping installed after September 3, 1990 must have corrosion protection or the tank system is not in compliance.

IF YOUR PIPING SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.



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TANK SURVEY FORM (cont.)

TANK NUMBER TANK SIZE SUBSTANCE STORED		NUMBER		SIZE			STORED		
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- 3. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the tank. (Heating oil tanks do not require release detection monitoring until December 22, 1998)
- Y a. Inventory control with tightness testing. If "YES" use checklist number 1.
- Y b. Statistical Inventory Control (SIR). If "YES", use checklist number 2.
- Y c. Manual tank gauging. If "YES", use checklist number 3.
- Y d. Automatic tank gauging (ATG or In-tank monitoring). If "YES", use checklist number 4.
- Y e. Ground water monitoring. If "YES" use checklist number 5.
- m Y f. Soil vapor monitoring. If "YES", use checklist number 6.
 - g. Interstitial monitoring (the tank is either double walled or in a lined excavation). If "YES", use checklist number 7.
 - $\frac{\text{NOTE}}{\text{oil}} \quad \text{- Owners and operators of all tanks (except for those containing heating oil used for on-site consumption) must be performing release detection monitoring at this time.}$
 - **IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE TANK AT THIS TIME, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.**
- f 4. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the piping.

(Heating oil piping does not require release detection monitoring until December 22, 1998).

- Y a. Tightness test. If "YES", use checklist number 8.
- Y b. SIR. If "YES", use checklist number 2.
 - c. Ground water monitoring. If "YES", use checklist number 5.
- Y d. Soil vapor monitoring. If "YES", use checklist number 6.
- Y e. Electronic monitoring. If "YES", use checklist number 9.
- Y f. Automatic line leak detection. If "YES", use checklist number 10.
- Y g. Interstitial monitoring (the piping is either double walled or in a lined excavation). If "YES", use checklist number 7.
- Y h. NONE. Piping system is European suction (check valve at base of piping). If "YES", use checklist number 11.
 - ${
 m \underline{NOTE}}$ ${
 m All}$ pressurized piping systems must have one of the methods of leak detection noted above ${
 m \underline{AND}}$ an automatic line leak detector (a method to detect a 3 gallon per hour leak at 10 psi operating pressure within one hour). If the tank system uses pressurized piping but does not have an automatic line leak detector, the system is out of compliance for leak detection monitoring.





TANK SURVEY FORM (cont.)

TANK	NUMBER	TANK	SIZE	SUBSTANCE	STORED	
T T 7T 4T C	TACTIDATE		\mathcal{O} \perp \mathcal{O} \perp	DODDITENCE	DICHE	

IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE PIPING, OR PRESSURIZED PIPING IS USED AND THERE IS NO AUTOMATIC LINE LEAK DETECTOR, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 5. Does the tank system have a spill bucket? If "YES" use checklist number 13.
- Y N
- 6. Does the tank system have overfill protection? If "YES" use checklist number 13.
- Y N

 ${
m NOTE}$ - If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have both spill prevention and overfill prevention, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

IF YOUR UNDERGROUND STORAGE TANK SYSTEM IS REQUIRED TO HAVE SPILL PREVENTION AND OVERFILL PREVENTION BUT DOES NOT HAVE ONE OR BOTH OF THESE ITEMS, CIRCLE "NO" FOR SPILL PREVENTION AND/OR OVERFILL PREVENTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

Checklist 4 - Release Detection Monitoring



AUTOMATIC TANK GAUGING (ATG) or IN-TANK MONITORING

(See Straight Talk on Tanks, page 8)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Does the ATG complete a leak test at least once every 30 days? (see item 2 below)
		Are the results of all of the ATG leak tests maintained and available for inspection by the Department? (see item 4 below)
		(Most ATG systems print the test results as well as the date and time of the test completion.) $\ \ $

- 1. You must maintain a copy of the ATG manufacturer's certification of test performance. All ATGs must be able to identify a 0.2 gallon per hour leak with 95% confidence and no greater than 5% false alarm. Manufacturers of release detection equipment must have independent laboratories test and certify that the equipment meets this standard. This form identifies the ability of the test equipment to meet this standard as well as the limitations on the equipment (for example: tank size, minimum volume of product in tank at the time of the test or the type of product stored).
- 2. Tanks must be tested at least once every month. If the results of one months ATG leak test is "inconclusive", the tank system is out of compliance with the requirements of release detection monitoring.
- 3. An ATG leak test indicating a discharge from the tank must be reported to the Department's Hot-line at (609)292-7172 and a site investigation conducted in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.
- 4. Records of maintenance of the ATG must be maintained and available for inspection by the Department.

Checklist 10 - Release Detection Monitoring



AUTOMATIC LINE LEAK DETECTION

(See Straight Talk on Tanks, page 22)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		Is an automatic line leak detector present on the tank system? (see note 1 below)
		Has the automatic line leak detector been tested in the past year?
		Do you maintain records of all maintenance, operational tests and repairs of the automatic line leak detector?
		Has the automatic line leak detector indicated a release from the piping?
		If "YES", has the suspected release been investigated?

- 1. An automatic line leak detector is needed on pressurized piping ONLY. It is a mechanical or electronic device which either restricts the flow of product to the dispenser or alerts the operator within 60 minutes when there is a 3 gallon per hour leak when operating at 10 pounds per square inch. The mechanical devices, commonly referred to as "red jackets" after one company that manufactures them, commonly restrict flow to the dispenser. Electronic devices commonly alert the operator of a problem. Electronic devices include electronic monitoring of the piping interstitial space or product-tight sump, and in-line pressure sensors. In-line pressure sensors monitor the pressure in the piping when the system is not dispensing product. A loss of pressure indicates a problem with the piping.
- 2. All line leak detectors must be able to detect a 3 gph release within 60 minutes when operating at 10 psi. Records of the manufacturer's performance claims and independent testing results must be maintained and available for inspection by the Department.
- 3. A release is suspected when an electronic system goes into alarm or the mechanical system restricts the flow of product to the dispenser or acts erratically. Owners and operators must investigate and confirm or disprove the suspected release within 7 days in accordance with N.J.A.C. 7:14B-7. Systems found to be releasing product must be emptied and then repaired or taken permanently out of service and a site investigation performed in accordance with N.J.A.C. 7:26E.



INTERSTITIAL MONITORING

SECONDARY CONTAINMENT

(DOUBLE WALLED SYSTEMS OR LINED EXCAVATIONS)
(See Straight Talk on Tanks, page 6)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	NO	
		The interstitial space (the space between both walls of the system) is monitored at least once every 30 days.
		If an electronic system is used, is it checked each month to ensure it is operating properly? (DO NOT answer if this question does not apply to your underground storage tank system) (see item 2 below)
		Are records of all interstitial monitoring events maintained and available for inspection by the Department?

- 1. Interstitial monitoring may be electronic (liquid or vapor sensor), manual (liquid or vapor inspection), hydraulic (interstice filled with brine), or pressure/vacuum monitoring.
- 2. Records of maintenance or calibration of electronic sensors must be maintained and available for inspection by the Department. Electronic sensors should be inspected once a month to ensure they are operating properly.
- 3. Should the interstitial monitor indicate a release, the system should be emptied and repaired or removed.



SPILL AND OVERFILL PREVENTION

(See Don't Wait until 1998, pages 4 through 7)

TANK NUMBER	TANK SIZE SUBSTANCE STORED
** Only answ	ver applicable questions, leave all others blank. **
YES NO	
	Spill Prevention (spill bucket or product-tight chamber) Is the spill bucket or product-tight chamber free of dirt, product and moisture?
— —	Overfill Prevention One of the following overfill prevention systems has been installed: - Automatic shutoff device - Flow restrictor - Alarm

NOTES:

1. All tank systems installed after December 22, 1988 must have spill and overfill prevention except heating oil. Heating oil tank systems installed after September 3, 1990 must have spill and overfill prevention. Systems installed before these dates must be upgraded with spill and overfill prevention by December 22, 1998 or be removed.

If your tank system is out of compliance for spill prevention and/or overfill prevention, circle "No" for these items on the Self-Inspection Checklist Summary.

- 2. Tank systems which are filled by transfers of 25 gallons or less do not need spill and overfill prevention.
- 3. If the system is upgraded with a spill prevention or overfill prevention on or after September 4, 1990, the owner or operator must obtain a permit from the Department to perform the upgrade.





TANK SURVEY FORM

TANK	NUMBER	TANK	SIZE _	SUBSTANCE	STORED	

- 1. Is the tank made of *Steel*, *Fiberglass* or *Other material* (list the other material)?

 ______ If the tank is not made of steel or is jacketed in a non-corrodible material such as fiberglass, the tank is in compliance with corrosion protection.
- Y NIf the tank is made of steel, does it have corrosion protection (cathodic protection or internal lining)? If "YES", use checklist number 12.

 ${\hbox{NOTE}\over\hbox{cont}}$ - Tank systems installed after December 21, 1988 (except those used to ${\hbox{cont}}$ in heating oil for on-site consumption) must have corrosion protection or they are not in compliance with the federal and state rules as noted above. Heating oil systems installed after September 3, 1990 must have corrosion protection or the systems are not in compliance with federal and state rules.

IF YOUR SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION AS NOTED ABOVE, BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 2. Is the piping made of *steel* or other metal, *Fiberglass* or *Other material* (list the other material? ______ If the piping is not made of metal or is secondarily contained within a non-corrodible material such as fiberglass, the piping is in compliance with corrosion protection.
- Y = N If the piping is made of steel or another metal, does it have corrosion protection (cathodic protection)? If "YES", use checklist number 12.

NOTE - Metallic piping systems installed after December 21, 1988 (except those used with heating oil tanks used for on-site consumption) must have corrosion protection (dielectric coating and cathodic protection or isolation from the soil surrounding piping, ie: secondary containment) or they are not in compliance with the federal and state rules. Heating oil piping installed after September 3, 1990 must have corrosion protection or the tank system is not in compliance.

IF YOUR PIPING SYSTEM IS REQUIRED TO HAVE CORROSION PROTECTION BUT DOES NOT, CIRCLE "NO" FOR CORROSION PROTECTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.



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TANK SURVEY FORM (cont.)

TANK NUMBER TANK SIZE SUBSTANCE STORED		NUMBER		SIZE			STORED		
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- 3. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the tank. (Heating oil tanks do not require release detection monitoring until December 22, 1998)
- Y a. Inventory control with tightness testing. If "YES" use checklist number 1.
- Y b. Statistical Inventory Control (SIR). If "YES", use checklist number 2.
- Y c. Manual tank gauging. If "YES", use checklist number 3.
- Y d. Automatic tank gauging (ATG or In-tank monitoring). If "YES", use checklist number 4.
- Y e. Ground water monitoring. If "YES" use checklist number 5.
- m Y f. Soil vapor monitoring. If "YES", use checklist number 6.
 - g. Interstitial monitoring (the tank is either double walled or in a lined excavation). If "YES", use checklist number 7.

 $\frac{\text{NOTE}}{\text{oil}} \quad \text{- Owners and operators of all tanks (except for those containing heating oil used for on-site consumption) must be performing release detection monitoring at this time.}$

- **IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE TANK AT THIS TIME, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.**
- f 4. Circle "Y" for <u>all</u> of the methods of release detection monitoring used with the piping.

(Heating oil piping does not require release detection monitoring until December 22, 1998).

- Y a. Tightness test. If "YES", use checklist number 8.
- Y b. SIR. If "YES", use checklist number 2.
 - c. Ground water monitoring. If "YES", use checklist number 5.
- Y d. Soil vapor monitoring. If "YES", use checklist number 6.
- Y e. Electronic monitoring. If "YES", use checklist number 9.
- Y f. Automatic line leak detection. If "YES", use checklist number 10.
- Y g. Interstitial monitoring (the piping is either double walled or in a lined excavation). If "YES", use checklist number 7.
- Y h. NONE. Piping system is European suction (check valve at base of piping). If "YES", use checklist number 11.
 - ${
 m \underline{NOTE}}$ ${
 m All}$ pressurized piping systems must have one of the methods of leak detection noted above ${
 m \underline{AND}}$ an automatic line leak detector (a method to detect a 3 gallon per hour leak at 10 psi operating pressure within one hour). If the tank system uses pressurized piping but does not have an automatic line leak detector, the system is out of compliance for leak detection monitoring.





TANK SURVEY FORM (cont.)

TANK I	NUMBER	TANK	SIZE		SUBSTANCE	STORED	
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IF RELEASE DETECTION MONITORING IS REQUIRED BUT NO METHOD IS BEING PERFORMED ON THE PIPING, OR PRESSURIZED PIPING IS USED AND THERE IS NO AUTOMATIC LINE LEAK DETECTOR, CIRCLE "NO" FOR RELEASE DETECTION MONITORING ON THE SELF-INSPECTION CHECKLIST SUMMARY.

- 5. Does the tank system have a spill bucket? If "YES" use checklist number 13.
- Y N
- 6. Does the tank system have overfill protection? If "YES" use checklist number 13.
- Y N

 ${
m NOTE}$ - If your tank system was installed after December 21, 1988, (except for those holding heating oil for on-site consumption) and it does not have both spill prevention and overfill prevention, you are out of compliance with the current state and federal construction requirements for underground storage tank systems. Heating oil systems installed after September 3, 1990 must have these items or the system is out of compliance.

IF YOUR UNDERGROUND STORAGE TANK SYSTEM IS REQUIRED TO HAVE SPILL PREVENTION AND OVERFILL PREVENTION BUT DOES NOT HAVE ONE OR BOTH OF THESE ITEMS, CIRCLE "NO" FOR SPILL PREVENTION AND/OR OVERFILL PREVENTION ON THE SELF-INSPECTION CHECKLIST SUMMARY.

To perform manual tank gauging, every 7 days:



MANUAL TANK GAUGING

(See Straight Talk on Tanks, page 20)

TANK	NUMBER	TANK SIZE SUBSTANCE STORED
YES	<u>NO</u>	Is manual tank gauging performed every 7 days? (see item 1 below)
		Is the tank capacity 2,000 gallons or less? (see item 3 below)
		Is the tank taken out of service for the correct amount of time? (See item 3below)
		Product level is measured with $1/8$ inch accuracy. (Conversion to volume should be using a tank chart with $1/8$ inch accuracy)
		Are the results of all manual tank gauging maintained and available for inspection by the Department?
		Are the records of the required tightness tests maintained and available for inspection by the Department? (See item 2 below) ** DO NOT answer this question if it is not applicable!! **

- 1. Each week when the test is performed, the product level in the tank must be measured twice at the beginning and twice at the end of the test. The product level is the average of the two measurements.
- 2. Tanks up to 1,000 gallons capacity may use manual tank gauging as the sole method of release detection. Tanks 1,001 to 2,000 gallons capacity may use manual tank gauging in place of inventory control when the method of release detection monitoring is tank testing performed with inventory control.
- Tanks up to 550 gallons must be taken out of service for 36 hours.

 Tanks 1,000 gallons with a diameter of 54 inches must be taken out of service for 44 hours.

 Tanks 1,000 gallons with a diameter of 48 inches must be taken out of service for 58 hours.
 - Tanks 1,000 to 2,000 gallons which are tank tested and use manual tank gauging in place of inventory control must be taken out of service for 36 hours.
- 4. A weekly or monthly volume variation in excess of the allowable limits ($\underline{\text{See Straight}}$ $\underline{\text{Talk on Tanks}}$) requires the owner or operator to investigate a suspected release. Within 7 $\underline{\text{days}}$ the owner or operator must identify if the measured volumetric variation is due to mathematical error or represents a release. If it is due to error, records of the correction must be maintained. If it is due to a release, the owner or operator must cease use of the tank system, contact the Department's Hot-line at (609)292-7172 and begin a site investigation in accordance with N.J.A.C. 7:26E. All tanks which have released product shall be emptied and either repaired or removed.